

PATENT ABSTRACTS OF JAPAN

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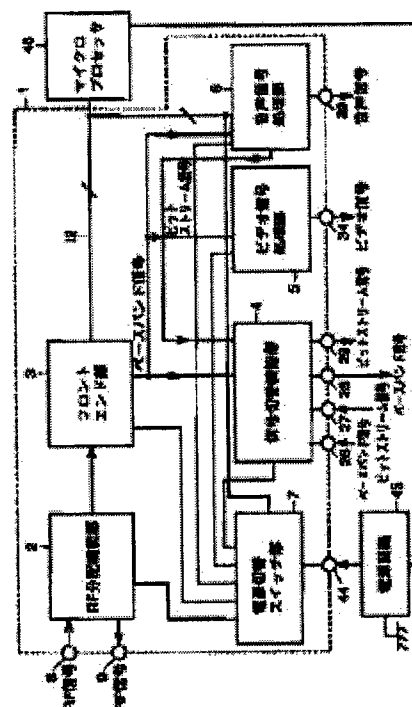
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(54) SATELLITE BROADCASTING RECEIVING UNIT

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a satellite broadcasting receiving unit capable of satisfying the request of power saving, miniaturization and a composite function and facilitating the designing of an external power source.

SOLUTION: This satellite broadcasting receiving unit 1 is provided with plural function blocks (an RF distribution function part 2, a front/end part 3, a signal switching function part 4, a video signal processing part 5, a voice signal processing part 6, a power switching switch part 7 and a single power terminal 44). The unit 1 is connected to an external microprocessor 46 through a bi-directional bus 12. The part 7 has plural power source switches. Based on control data received from the bus 12, the power source switches are tuned on to selectively supply power to each function block from the terminal 44.



DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] Especially this invention relates to the satellite reception unit which receives satellite broadcasting about a reception unit.

[0002]

[Description of the Prior Art] The conventional satellite reception unit 90 is explained using drawing 9. Drawing 9 is a figure showing the composition of the important section of the conventional satellite reception unit 90. With reference to drawing 9, the conventional satellite reception unit 90 contains two or more functional blocks 91a, 91b, 91c, --, 91n. The functional blocks 91a, 91b, 91c, --, 91n of these plurality perform operation for receiving satellite broadcasting.

[0003] The microprocessor 96 controls operation of two or more functional blocks. The microprocessor 96 controls operation of the power supply circuit 95 further. The power supply circuit 95 supplies a power supply to the power supply terminals 94a, 94b, 94c, --, 94n based on control of the microprocessor 96. Functional blocks [91a, 91b, 91c, --, 91n] each operates in response to current supply from the corresponding power supply terminals 94a, 94b, 94c, --, 94n.

[0004] Two or more functional blocks [91a, 91b, 91c, -- 91n] each is not necessarily always operated. For this reason, in the conventional satellite reception unit 90, a power supply terminal corresponding for every functional block is provided, and power-saving is attained by performing current supply individually only to a required functional block by a case.

[0005]

[Problem to be solved by the invention] However, since the conventional satellite reception unit 90 is constituted as mentioned above, it needs to arrange a power supply terminal for every functional block. Now, it cannot respond to the request of the miniaturization demanded from a commercial scene, and composite-izing of the further function. There is a problem that an external power supply design becomes complicated, so that the number of power supply terminals increases.

[0006] So, it is providing the satellite reception unit which it can be made in order that this invention's may solve the problem shown above, and the purpose's can fill the request of power-saving, a miniaturization, and compound-function-izing, and can make an external power supply design easy.

[0007]

[Means for solving problem] The satellite reception unit concerning Claim 1 is provided with the following. The power supply terminal which is a satellite reception unit which receives satellite broadcasting based on control of an external microprocessor, and receives an external power.

Two or more functional blocks which perform operation concerning reception of satellite broadcasting. The power supply switching means which supplies selectively the external power received with a power supply terminal to each of two or more functional blocks based on control of a microprocessor.

[0008] Therefore, in the satellite reception unit in which the function was decoded, a power supply can be

supplied selectively, without providing a power supply terminal for every functional block. Thereby, the request of power-saving and compound-function-izing can be filled. Since it is not necessary to provide a power supply terminal for every functional block, an external power supply design can be made easy.

[0009]The satellite reception unit concerning Claim 2 is a satellite reception unit concerning Claim 1, and a power supply switching means, From a microprocessor the control data corresponding to received broadcasting including the reception means to receive and two or more electric power switches each of two or more electric power switches, It is provided corresponding to each of two or more functional blocks, and an external power is supplied to a corresponding functional block by the one based on the output of a reception means.

[0010]Therefore, a power supply can be selectively supplied to each functional block by forming an easy electric power switch. Thereby, the request of power-saving and compound-function-izing can be filled.

[0011]The satellite reception unit concerning Claim 3 is a satellite reception unit concerning Claim 2, have further a bi-directional bus connected to a microprocessor, and two or more functional blocks, It is connected with a microprocessor via a bi-directional bus, and a reception means receives the control data corresponding to received broadcasting from a microprocessor via a bi-directional bus.

[0012]Therefore, it can be with the same bi-directional bus as a functional block, and a power supply can be selectively supplied to each of a functional block. Thereby, the control terminal only for an electric power switch is not needed, but a miniaturization is realized.

[0013]The satellite reception unit concerning Claim 4 is a satellite reception unit concerning Claim 1, and two or more functional blocks, A video signal and an audio signal including the signal processing means to which it restores a power supply switching means, Including the reception means which receives the control data corresponding to received broadcasting from a microprocessor, and two or more electric power switches which receive an external power from a power supply terminal, each of two or more electric power switches, It is provided corresponding to each of two or more functional blocks, and the electric power switch corresponding to a signal processing means supplies an external power to a signal processing means by the one based on the output of a reception means.

[0014]Therefore, about the functional block which performs the recovery of an audio signal and a video signal, according to an important point/needlessness of operation, a power supply can be supplied to the functional block concerned, or it can stop. Thereby, power-saving becomes possible about specific broadcast.

[0015]The satellite reception unit concerning Claim 5 is a satellite reception unit concerning Claim 4, and a signal processing means, Including a video-signal-processing means to restore to a video signal, and the sound signal processing means which restores to an audio signal, each of a video-signal-processing means and a sound signal processing means, Correspond to NTSC broadcast and the electric power switch corresponding to a signal processing means, Including the 1st switch corresponding to a video-signal-processing means, and the 2nd switch corresponding to a sound signal processing means, when received broadcasting is MUSE high-definition television broadcasting, the 1st switch and 2nd switch are turned off.

[0016]Therefore, it becomes possible to suspend the current supply to the functional block which

performs the recovery of a video signal, and the recovery of an audio signal to high-definition television broadcasting of the MUSE from which especially a demodulation method differs. This becomes possible to attain power-saving.

[0017]The satellite reception unit concerning Claim 6 is a satellite reception unit concerning Claim 1, and two or more functional blocks, A video signal including the video-signal-processing means for getting over a power supply switching means, Including the reception means which receives the control data corresponding to received broadcasting from a microprocessor, and two or more electric power switches which receive said external power from a power supply terminal, each of two or more electric power switches, It is provided corresponding to each of two or more functional blocks, and the electric power switch corresponding to a video-signal-processing means supplies an external power to a video-signal-processing means by the one based on the output of a reception means.

[0018]Therefore, about the functional block which restores to a video signal, according to an important point/needlessness of operation, a power supply can be supplied to the functional block concerned, or it can stop. Thereby, power-saving becomes possible about specific broadcast.

[0019]The satellite reception unit concerning Claim 7 is a satellite reception unit concerning Claim 6, and a video-signal-processing means corresponds to NTSC broadcast, and when received broadcasting is the JSB broadcast which required scramble, it turns off the electric power switch corresponding to a video-signal-processing means.

[0020]Therefore, it becomes possible to suspend the current supply to the functional block which restores to a video signal to the JSB broadcast which the scramble from which especially a demodulation method differs required. This becomes possible to attain power-saving.

[0021]The RF input terminal which the satellite reception unit concerning Claim 8 is a satellite reception unit concerning Claim 1, and receives an RF signal, Have further an RF output terminal which outputs an RF signal outside, and two or more functional blocks, The signal processing means which recovers a video signal and an audio signal from an RF signal, Including the dispensing means which distributes the RF signal received with an RF input terminal, and is outputted to a signal processing means or an RF output terminal, a power supply switching means, Including the reception means which receives the control data corresponding to received broadcasting from a microprocessor, and two or more electric power switches which receive an external power from a power supply terminal, each of two or more electric power switches, It is provided corresponding to each of two or more functional blocks, and the electric power switch corresponding to a signal processing means supplies an external power to a signal processing means by the one based on the output of a reception means.

[0022]Therefore, about functional blocks other than the functional block which distributes, according to an important point/needlessness of operation, a power supply can be supplied to the functional block concerned, or it can stop. Thereby, power-saving becomes possible about specific broadcast.

[0023]The satellite reception unit concerning Claim 9 is a satellite reception unit concerning Claim 8, and a signal processing means, A baseband signal processing means to restore to the output of a dispensing means to a baseband signal, A video-signal-processing means to restore to a video signal in response to a baseband signal, In response to a baseband signal, the electric power switch corresponding to a signal

processing means including the sound signal processing means which restores to an audio signal, The 1st switch corresponding to a baseband signal processing means, and the 2nd switch corresponding to a video-signal-processing means, When outputting the RF signal received with an RF input terminal from an RF output terminal including the 3rd switch corresponding to a sound signal processing means, the 1st switch, 2nd switch, and 3rd switch are turned off.

[0024]Therefore, when not restoring to an RF signal but transmitting to other units, it becomes possible to suspend the current supply to the functional block (the recovery to a baseband signal, the recovery of a video signal, and the recovery of an audio signal) after the block which has a distribution frame. This becomes possible to attain power-saving.

[0025]A satellite reception unit concerning Claim 10 is a satellite reception unit concerning Claim 1, and two or more functional blocks, An RF signal to input including a baseband signal processing means to get over to a baseband signal a baseband signal processing means, For demodulation operation in a reception means which receives control data corresponding to received broadcasting outputted from a microprocessor, and a baseband signal processing means, Including a frequency generating means which generates a signal of desired frequency based on an output of a reception means, and an output port which outputs an output of a reception means outside, a power supply switching means answers a voltage level of an output port, and supplies an external power to each of two or more functional blocks.

[0026]Therefore, it becomes possible to control current supply using a circuit to which it restores to a baseband signal. This becomes possible to constitute an electric power switch from minimum part mark.

[0027]A satellite reception unit concerning Claim 11 is a satellite reception unit concerning Claim 10, and a baseband signal processing means comprises a PLL synthesizer.

[0028]Therefore, in a satellite reception unit in which a function was decoded, current supply can be selectively performed using a functional block used for reception. Thereby, a request of a miniaturization can be filled.

[0029]

[Mode for carrying out the invention][Embodiment 1] The outline of the satellite reception unit 1 in the embodiment of the invention 1 is explained using drawing 1. Drawing 1 is a schematic block diagram showing the composition of the important section of the satellite reception unit 1 in the embodiment of the invention 1.

[0030]With reference to drawing 1, the satellite reception unit 1 contains two or more functional blocks. In drawing 1, RF distribution frame part 2, the front end section 3, the signal switching-functions part 4, the video-signal-processing part 5, the voice signal processing section 6, and the power supply changeover switch part 7 are indicated as a representative of a functional block. The functional block of these plurality performs operation which relates to reception of satellite broadcasting based on control of the external microprocessor 46. The satellite reception unit 1 contains the single power supply terminal 44. The power supply terminal 44 receives current supply from the power supply circuit 45 arranged outside. The power supply circuit 45 supplies a power supply to the power supply terminal 44 based on control of the microprocessor 46.

[0031]RF distribution frame part 2 distributes the RF signal received from the RF input terminal 8, and

outputs it to RF output terminal 9 or the front end section 3. The front end section 3 restores to an RF signal to a baseband signal. The front end section 3 is connected with the microprocessor 46 via the bi-directional bus 12.

[0032]The signal switching-functions part 4 outputs outside the bit stream signal to which it restored by the bit stream signal or inside received from the bit stream input terminal 27 from the bit stream output terminal 29. The signal switching-functions part 4 outputs outside the baseband signal to which it restored further by the baseband signal or inside received from the baseband input terminal 26 from the baseband output terminal 28.

[0033]The video-signal-processing part 5 restores to the baseband signal received from the front end section 3 to a video signal. A video signal is outputted outside from the video output terminal 34. The voice signal processing section 6 restores to the baseband signal received from the front end section 3 to an audio signal and a bit stream signal. An audio signal is outputted outside from the audio output terminal 39, and a bit stream signal is outputted to the signal switching-functions part 4. The voice signal processing section 6 is connected with the microprocessor 46 via the bi-directional bus 12.

[0034]The power supply changeover switch part 7 is connected with the power supply circuit 45 via the power supply terminal 44. The power supply changeover switch part 7 has the electric power switches 40a, 40b, 40c, 40d, and 40e so that it may mention later. The power supply changeover switch part 7 receives control data from the microprocessor 46 via the bi-directional bus 12. Each of an electric power switch supplies a power supply to each functional block of RF distribution frame part 2, the front end section 3, the signal switching-functions part 4, the video-signal-processing part 5, and the voice signal processing section 6 selectively by turning on and off based on the control data concerned.

[0035]Here, the details of each functional block are explained. Drawing 2 is a figure showing an example of specific constitution of the power supply changeover switch part 7 shown in drawing 1, and has indicated the relation with the microprocessor 46 collectively for reference. With reference to drawing 2, the power supply changeover switch part 7 contains the electric power switches 40a, 40b, 40c, 40d, and 40e, the control gate 41, the latch circuitry 42, and the bus transceiver 43. The power supply terminal 44 is connected with the switches 40a, 40b, 40c, 40d, and 40e, the control gate 41, the latch circuitry 42, and the bus transceiver 43.

[0036]The bus transceiver 43 receives the control data which the microprocessor 46 outputs via the bi-directional bus 12. The latch circuitry 42 latches the control data which won popularity with the bus transceiver 43. The control gate 41 turns on and off the electric power switches 40a, 40b, 40c, 40d, and 40e based on the control data latched in the latch circuitry 42, respectively.

[0037]The electric power switches 40a, 40b, 40c, 40d, and 40e comprise a transistor, and each emitter terminal is connected with the power supply terminal 44. The electric power switches 40a, 40b, 40c, 40d, and 40e are connected with the corresponding functional block, respectively. When one [an electric power switch], a power supply is supplied to a corresponding functional block. RF distribution frame part 2 passes the electric power switch 40a, the front end section 3 passes the electric power switch 40b, as for the voice signal processing section 6, the electric power switch 40d and the signal switching-functions part 4 pass the electric power switch 40e, respectively, and, specifically, the electric power switch 40c

and the video-signal-processing part 5 receive current supply.

[0038]Drawing 3 is a figure showing an example of specific constitution of RF distribution frame part 2 shown in drawing 1. With reference to drawing 3, RF distribution frame part 2 contains the highpass filter 10, RF amplifier 11, and the distributor 12. The RF signal received from the RF input terminal 8 is amplified with RF amplifier 11 after passing the highpass filter 10. The distributor 12 undergoes the output of RF amplifier 11, and distributes this. A signal is outputted to the front end section 3, and, as for the signal of another side, while being outputted from the distributor 12 is outputted outside from RF output terminal 9. RF output terminal 9 is connected with the RF input terminal of other satellite reception equipment which is not illustrated. The RF distribution frame part 2 operates in response to current supply via the electric power switch 40a, as mentioned above.

[0039]Drawing 4 is a figure showing an example of specific constitution of the front end section 3 shown in drawing 1, and has indicated the relation with the microprocessor 46 collectively for reference. With reference to drawing 4, the front end section 3 contains the attenuator 13, the variable bandpass filter 14, the mixer 15, the local oscillator 16, PLL synthesizer 17, IF amplifier 19, the IF band pass filter 20, and FM demodulator 21.

[0040]The signal received from RF distribution frame part 2 passes the attenuator 13 and the variable bandpass filter 14, is inputted into the mixer 15 for the 1st down converter, and is mixed with the local oscillation signal given from the local oscillator 16.

[0041]PLL synthesizer 17 is connected with the microprocessor 46 via the bi-directional bus 12. PLL synthesizer 17 outputs the control signal for setting up the center frequency of the local oscillation signal outputted from the local oscillator 16, and the variable bandpass filter 14 based on the data sent from the microprocessor 46. PLL synthesizer 17 changes H (high impedance)/L (low impedance) of the fanout port 18 further based on the data sent from the microprocessor 46. The voltage level (H/L) of the fanout port 18 is used for switching etc. of the external unit which is not illustrated.

[0042]From the mixer 15, the intermediate frequency (IF) signal which is the frequency of the difference of two signals mentioned above is outputted. This IF signal is band-limited by passing IF amplifier 19 and the IF band pass filter 20. FM detection of the output of the IF band pass filter 20 is carried out with FM demodulator 21, and it serves as a baseband signal. A baseband signal is outputted to the signal switching-functions part 4, the video-signal-processing part 5, and the voice signal processing section 6. As mentioned above, via the electric power switch 40b, the front end section 3 receives current supply, and operates.

[0043]Drawing 5 is a figure showing an example of specific constitution of the signal switching-functions part 4 shown in drawing 1. With reference to drawing 5, the signal switching-functions part 4 contains the changeover switches 22 and 23 and the buffer amplifier 24 and 25. The buffer amplifier 24 is connected between the baseband output terminal 28 and the changeover switch 22. The buffer amplifier 25 is connected between the bit stream output terminal 29 and the changeover switch 23.

[0044]The changeover switch 22 outputs the baseband signal received from the baseband signal received from the baseband input terminal 26, or the front end section 3 to the buffer amplifier 24. The buffer amplifier 24 amplifies the baseband signal received via the changeover switch 22.

[0045]The changeover switch 23 outputs the bit stream signal received from the bit stream signal or the voice signal processing section 6 received from the bit stream input terminal 27 to the buffer amplifier 25. The buffer amplifier 25 amplifies the bit stream signal received via the changeover switch 23.

[0046]The output (baseband signal) of the buffer amplifier 24 is outputted outside from the baseband output terminal 28. The output (bit stream signal) of the buffer amplifier 25 is outputted outside from the bit stream output terminal 29. As mentioned above, via the electric power switch 40e, the signal switching-functions part 4 receives current supply, and operates.

[0047]Drawing 6 is a figure showing an example of specific constitution of the video-signal-processing part 5 shown in drawing 1. With reference to drawing 6, the video-signal-processing part 5 contains the Di accentuator circuit 30, the clamp circuit 31, the video filter 32, and the video amplifier 33. By passing through the Di accentuator circuit 30 and a clamp circuit, DIENFASHISU, a clamping process, etc. are performed and the baseband signal outputted from the front end section 3 is changed into a video signal by passing the video filter 32 further. The video signal outputted from the video filter 32 is amplified with the video amplifier 33, and is outputted outside from the video output terminal 34. As mentioned above, via the electric power switch 40d, the video-signal-processing part 5 receives current supply, and operates.

[0048]Drawing 7 is a figure showing an example of specific constitution of the voice signal processing section 6 shown in drawing 1, and has indicated the relation with the microprocessor 46 for reference. With reference to drawing 7, the voice signal processing section 6 contains the QPSK demodulation circuit 35, the PCM demodulator circuit 36, D/A converter 37, and the voice filter 38. the baseband signal outputted from the front end section 3 passes through the QPSK demodulation circuit 35 and the PCM demodulator circuit 36 -- QPSK demodulation -- a PCM recovery is carried out.

[0049]Based on the data which receives from the microprocessor 46 via the bi-directional bus 12, fundamental sound voice, a sub voice, and an independent voice are chosen. D/A converter 37 carries out D/A conversion of the signal to which it restored according to the selection concerned. The output of D/A converter 37 is changed into an audio signal by passing the voice filter 32. An audio signal is outputted outside from the audio output terminal 39. The bit stream signal outputted from the PCM demodulator circuit 36 is outputted to the signal switching-functions part 4. As mentioned above, via the electric power switch 40c, the voice signal processing section 6 receives current supply, and operates.

[0050]Next, an example of operation of the satellite reception unit 1 in the embodiment of the invention 1 is explained. The case where high-definition television broadcasting of a MUSE (Multiple sub-Nyquist sample encoding) system is received is explained. Broadcasting formats differ by high-definition television broadcasting of MUSE, and the usual NTSC broadcast. The video-signal-processing part 5 and the voice signal processing section 6 which were mentioned above support NTSC broadcast, and perform the recovery of a video signal and an audio signal by the MUSE decoder or M-N converter of another unit which is not illustrated to high-definition television broadcasting of MUSE.

[0051]Therefore, when receiving high-definition television broadcasting of MUSE, the current supply to the video-signal-processing part 5 and the voice signal processing section 6 is suspended. When receiving high-definition television broadcasting of MUSE, more specifically based on the control data

outputted from the microprocessor 46, the switches 40d and 40c are turned OFF. The microprocessor 46 generates the control data concerned based on a broadcasting channel (BS-9CH), for example. By making it operate in this way, it becomes possible to reduce power consumption about 30%.

[0052]An example of other operations of the satellite reception unit 1 in the embodiment of the invention 1 is explained. The case where the JSB (Japan Satellite Broadcasting) broadcast which scramble required is received is explained. Broadcasting formats differ by the JSB broadcast which scramble required, and the usual NTSC broadcast. The video-signal-processing part 5 mentioned above supports NTSC broadcast, and restores to a video signal by the JSB decoder of another unit which is not illustrated to the JSB broadcast which scramble required.

[0053]Therefore, in receiving JSB broadcast, it suspends the current supply to the video-signal-processing part 5. JSB broadcast sends the existence of scramble as PCM data (information) more concretely. The voice signal processing section 6 restores to this PCM data. The information to which it restored is transmitted to the microprocessor 46 via the bi-directional bus I2. The microprocessor 46 generates control data based on this information to which it restored. And the electric power switch 40c is turned OFF based on the control data concerned. By making it operate in this way, it becomes possible to reduce power consumption about 15%.

[0054]An example of other operations of the satellite reception unit 1 in the embodiment of the invention 1 is explained. The satellite reception unit 1 explains the case where do not receive broadcast but an RF signal is distributed to other satellite reception units which are not illustrated. In this case, only RF distribution frame part 2 is required, and other functional blocks become unnecessary.

[0055]Therefore, it is accepted RF distribution frame part 2, and it passes, a power supply is supplied, and current supply to the front end section 3, the signal switching-functions part 4, the video-signal-processing part 5, and the voice signal processing section 6 is suspended. Based on control data outputted from the microprocessor 46, the electric power switch 40a is considered as one, and, more specifically, the electric power switches 40b, 40c, 40d, and 40e are turned OFF. By making it operate in this way, it becomes possible to reduce power consumption about 90%.

[0056]An example of other composition of a power supply changeover switch part in an embodiment of the invention is explained using drawing 8. Drawing 8 is a figure for explaining composition of an important section of a power supply changeover switch part in an embodiment of the invention. In drawing 8, composition of an important section of PLL synthesizer 17 and a relation with the microprocessor 46 are indicated for explanation.

[0057]With reference to drawing 8, PLL synthesizer 17 contains the control gate 61, the latch circuitry 62, the bus transceiver 63, and the transistor 64. The bus transceiver 63 is connected with the microprocessor 46 via the bi-directional bus I2. The bus transceiver 63 receives control data from the microprocessor 46. The control gate 61 receives the control data transmitted from the microprocessor 46 via the latch circuitry 62. The frequency of the local oscillation signal outputted from the local oscillator 16 is determined by the programmable divider 65 which undergoes the output of the latch circuitry 62.

[0058]As for the transistor 64, a base is connected with a control gate, an emitter is connected with earth potentials, and a collector is connected with the fanout port 18. The transistor 64 is turned on and off

based on the output of the control gate 61. PLL synthesizer 17 receives current supply from the power supply terminal 44.

[0059]The power supply changeover switch part 50 contains the resistance 47 and the transistor 48. The resistance 44 is connected between the fanout port 18 and the base of the transistor 48. The transistor 48 is connected between the power supply terminal 44 and the power supply input part of a corresponding functional block. A functional block here is equivalent to the video-signal-processing part 5 and the voice signal processing section 6, for example.

[0060]PLL synthesizer 17 changes the fanout port 18 to H/L based on the control data which receives from the microprocessor 46, as mentioned above. The fanout port 18 of PLL synthesizer 17 is constituting the open collector. Therefore, the power supply of the power supply terminal 44 can be supplied to a functional block corresponding based on the control data concerned by attaching PNP transistor 48 on both sides of the resistance 47 for overcurrent protections.

[0061]With all the points, the embodiment indicated this time is illustration and should be considered not to be restrictive. The range of this invention is shown by the above-mentioned not explanation but Claims, and it is meant that Claims, an equal meaning, and all the change in within the limits are included.

[Translation done.]

(8)

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つき論理出力ポート18をH/Lに切替える。PLLシンセサイザ17の論理出力ポート18はオープンコレクタの構成をしている。したがって、過電流防止用の抵抗47をはさんでPNPトランジスタ48をつけることにより、電源端子44の電源を当該制御データに基づき対応する機能ブロックに供給することができる。

【0061】なお、今回開示された実施の形態はすべての点で例示であって制限的なものではないと考えられるべきである。本発明の範囲は上記した説明ではなくて特許請求の範囲によって示され、特許請求の範囲と均等の意味および範囲内でのすべての変更が含まれることが意図される。

【図面の簡単な説明】

【図1】本発明の実施の形態1における衛星放送受信ユニット1の要部の構成を示す概略ブロック図である。

【図2】図1に示す電源切替スイッチ部7の具体的な構成の一例を示す図である。

【図3】図1に示すRF分配機能部2の具体的な構成の一例を示す図である。

【図4】図1に示すフロントエンド部3の具体的な構成の一例を示す図である。

【図5】図1に示す信号切替機能部4の具体的な構成の一例を示す図である。

【図6】図1に示すビデオ信号処理部5の具体的な構成の一例を示す図である。

【図7】図1に示す音声信号処理部6の具体的な構成の一例を示す図である。

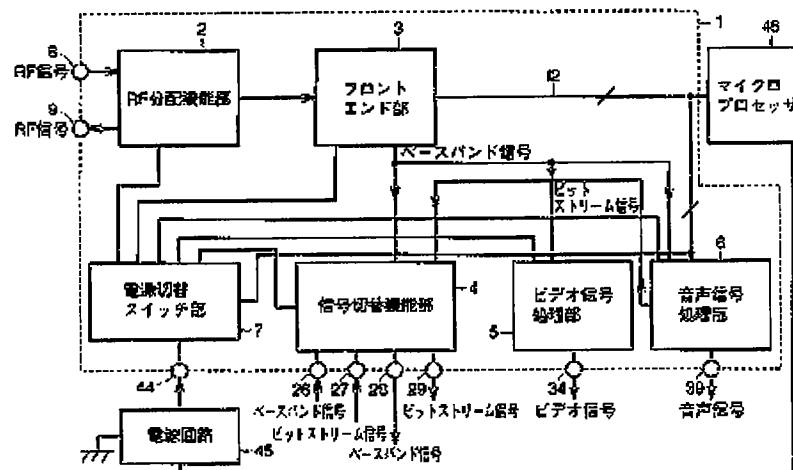
*【図8】本発明の実施の形態における電源切替スイッチ部の他の構成の一例を示す図である。

【図9】従来の衛星放送受信ユニットについて説明するための図である。

【符号の説明】

- 1 衛星放送受信ユニット
- 2 RF分配機能部
- 3 フロントエンド部3
- 4 信号切替機能部
- 5 ビデオ信号処理部
- 6 音声信号処理部
- 7 50 電源切替スイッチ部
- 8 RF入力端子
- 9 RF出力端子
- 17 PLLシンセサイザ
- 18 論理出力ポート
- 26 ベースバンド入力端子
- 27 ビットストリーム入力端子
- 28 ベースバンド出力端子
- 29 ビットストリーム出力端子
- 34 ビデオ出力端子
- 39 音声出力端子
- 40 a, 40 b, 40 c, 40 d, 40 e 電源スイッチ
- 44 電源端子
- 45 電源回路
- * 46 マイクロプロセッサ

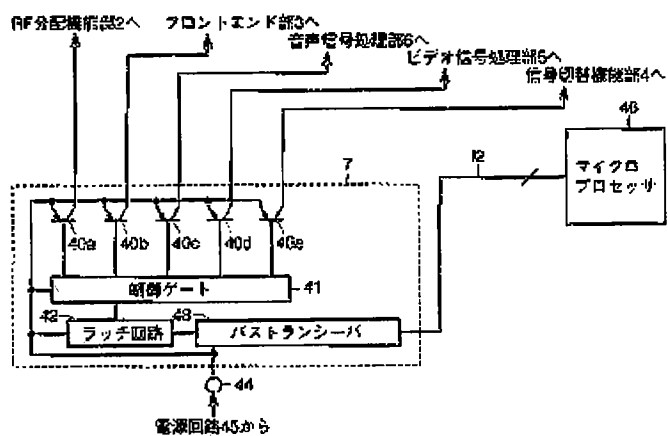
【図1】



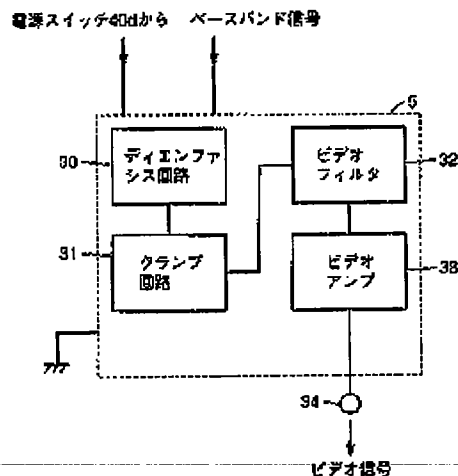
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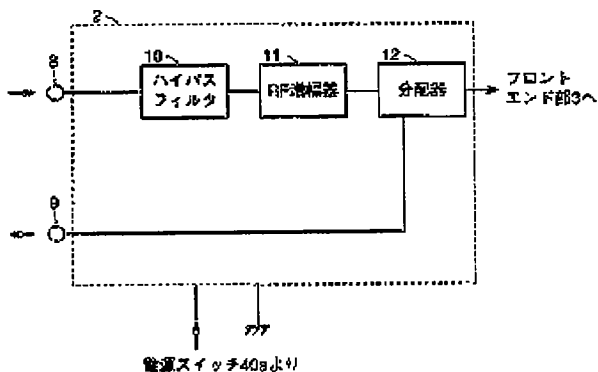
【図2】



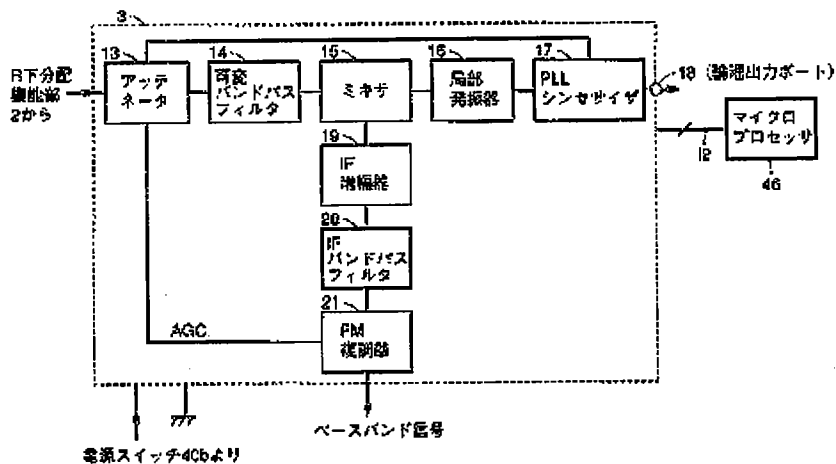
【図6】



【図3】



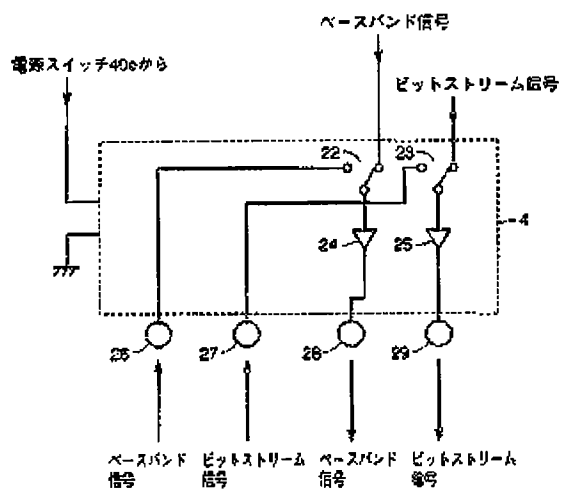
【図4】



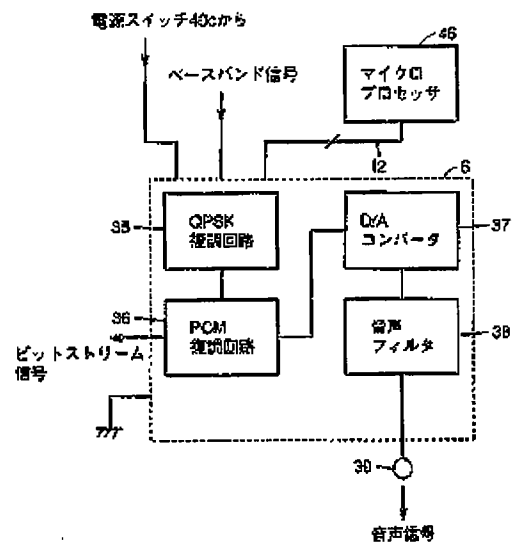
(10)

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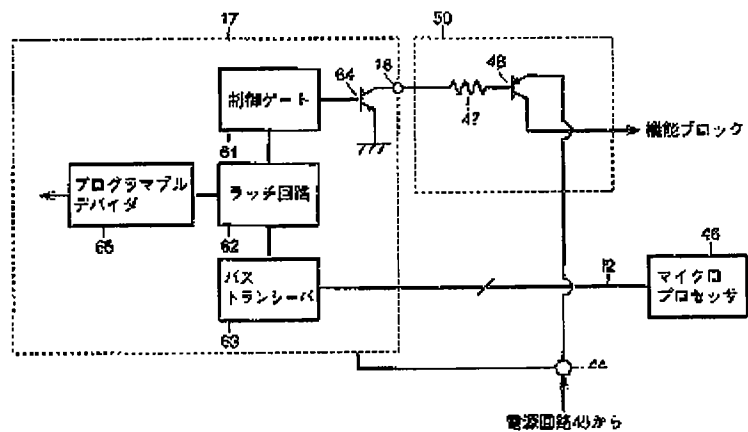
【図5】



【図7】



【図8】



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【図9】

